ELECTRONIC SUPPLEMENTARY INFORMATION

Roll-to-roll infrared and hot air sintering of gravure-printed Ag layer based on in-situ tension measuring and analysis

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Fig. S1 Linear scale plot of line resistance as a function of the exposure time with different experimental conditions of power or temperature input. Photonic sintering with (a) NIR with a 70 mm distance between the lamp and the substrate, (b) NIR with a 35 mm distance, and (c) MIR with a 35 mm distance using a different amount of power from the lamp. (d) Hot air in the oven chamber showing the effect of the temperature changes.



Fig. S2 Line resistance as a function of the exposure time with the 520 W-power MIR lamp.



Fig. S3 Comparison between the calculated energy density based on the lamp input and the measured energy density by power meter with different lamp sources.



Fig. S4 Scanning electron microscope image of Ag flake particles.



Fig. S5 Line resistance values as change of energy density and its curve fitted data based on the (a) measurement data from the energy meter and (b) theoretically calculated data.



Fig. S6 (a) Absorbance measurement of the PET film and the Ag layer and a photograph of the sample comparison with the (b) NIR and (c) MIR sources.